

**REMARKS**

In accordance with the foregoing, the specification has been amended to improve form and provide improved correlation with the drawings and claims. Claims 1, 3, 6, 9, 10, and 12-20 have been amended, claims 4, 5, 8 and 11 have been cancelled without prejudice or disclaimer, and claims 21 and 22 have been added. Claims 1-3, 6, 7, 9, 10 and 12-22 are pending and under consideration. No new matter is presented in this Amendment.

**DOUBLE PATENTING**

On pages 2-3 of the Office Action, the Examiner provisionally rejects claims 1-20 under the judicially created doctrine of obviousness-type double patenting in view of claims 1-20 of copending U.S. Patent Application No. 10/806,107. In view of the enclosed Terminal Disclaimer, it is respectfully requested that the rejection be withdrawn.

**REJECTIONS UNDER 35 U.S.C. §112:**

On pages 3-4 of the Office Action, the Examiner rejects claims 1-3, 6, 7, and 9-20 under 35 U.S.C. §112, second paragraph, as being indefinite. The rejection is traversed and reconsideration is respectfully requested.

As a point of clarification, claim 11 has been cancelled without prejudice or disclaimer. As such, it is respectfully submitted that the rejection is deemed moot.

While it is respectfully submitted that the claims as previously presented were compliant with 35 U.S.C. §112, second paragraph, claims 1, 6, 9, 10, 13, 16, and 18-20 have been amended to replace the term "pulse" with "period" to be more consistent with the terminology used in the specification as noted by the Examiner on page 3. Additionally, claim 15 has been amended as indicated and is submitted as being compliant with 35 U.S.C. §112. As such, it is respectfully requested that the Examiner reconsider and withdraw the rejection in light of the claims presented above.

**REJECTIONS UNDER 35 U.S.C. §102:**

On pages 4-6 of the Office Action, the Examiner rejects claims 1-3, 9, 11, 13 and 14 under 35 U.S.C. §102(e) in view of Dekker (U.S. Publication No. 2002/0003762). The rejection is

traversed and reconsideration is respectfully requested.

As a point of clarification, claim 11 has been cancelled without prejudice or disclaimer. As such, it is respectfully submitted that the rejection is deemed moot.

By way of review, FIGs. 1A and 1B of Dekker show an erase pulse sequence 14 having a first erase pulse at a high level  $P_e$  and a last erase pulse at a bias level  $P_1$  or  $P_2$  according to the writing speed. The write pulse sequence 13 has pulse at a level  $P_w$ , and a bias pulse at a level (unlabeled) below the bias levels  $P_1$  or  $P_2$  of the erase pulse (Paragraphs 0028 through 0031; Figs. 1A through 2). While Dekker shows the first erase pulse at the high level  $P_e$ , Dekker does not suggest that a power level of the first erase is the bias levels  $P_1$  or  $P_2$ .

On page 5 of the Office Action, the Examiner asserts that the first pulse of the erase pulse sequence 14 is actually at a low level below  $P_e$  or  $P_1$ . The Examiner also characterizes this first pulse as the cooling pulse. However, it is respectfully submitted that the pulse referred to by the Examiner is the bias pulse of the write pulse sequence 13. This low bias pulse is below the level of the low power for the erase pulse sequence 14 (i.e., bias pulse  $P_1$  or  $P_2$ ), and is not suggested as being part of the erase pulse sequence 14. Thus, the pulse referred to by the Examiner does not correspond to the low power for the erase pulse sequence 14.

Additionally, while the Examiner asserts that the power level  $P_1$  corresponds to a high level of the erase pulse sequence 14 as compared to the bias level of the write pulse sequence 13, it is respectfully submitted that the power level  $P_1$  within the erase pulse sequence 14 is the low level as compared to the erase pulse  $P_e$ .

In contrast, claim 1 recites, among other features, that "the erase pattern comprises a multi-pulse having with a power level of a leading pulse of the erase pattern set at a low power level of the multi-pulse and a power level of a period between an end point of the erase pattern and a start point of a leading pulse of the recording pattern is set at a high power level of the multi-pulse." As such, it is respectfully requested that the Examiner reconsider and withdraw the rejection in view of Dekker.

Similarly, to the extent that the bias level of the write pulse sequence 13 extends between periods 11 and 12, it is respectfully submitted that the bias level of the write pulse sequence 13 in Dekker does not disclose or suggest, among other features, that "the cooling pulse has a power level below the low power level of the multi-pulse of the erase pattern" as recited in claim 3.

Claims 2, 9, 13, and 14 are deemed patentable due at least to their depending from claim

1.

On pages 6-7 of the Office Action, the Examiner rejects claim 19 under 35 U.S.C. §102(e) in view of Ichihara (U.S. Patent No. 6,396,792). The rejection is traversed and reconsideration is respectfully requested.

By way of review, Ichihara discloses a waveform of recording pulses having erasure steps Pc1 and Pc2 when an NRZI signal as shown in FIG. 1A is low. Ichihara also discloses recording pulses including recording steps Pc1, Pa when the NRZI signal as shown in FIG. 1A is high. While not labeled in FIG. 1B or specifically discussed in the specification, a first one of the recording pulses has a level which is below the power level Pc1 (and appears to be Pc), and increases into a second pulse having a level of Pa. As such, the power level of the pulse between the recording and erase pattern is shown as less than the first pulse of the erase signal having the power level Pc1 and is not shown as being the high power level Pc1 used in the erase steps.

In contrast, claim 19 recites, among other features, that "the erase pattern comprises a multi-pulse having a power level of a leading pulse of the erase pattern at a high power level of the multi-pulse and a power level of a period between an end point of the erase pattern and a start point of a leading pulse of a recording pattern at the high power level of the multi-pulse." As such, it is respectfully requested that the Examiner reconsider and withdraw the rejection in view of Ichihara.

On pages 7-8 of the Office Action, the Examiner rejects claim 20 under 35 U.S.C. §102(b) in view of Nishiuchi et al. (U.S. Patent No. 5,291,470). The rejection is traversed and reconsideration is respectfully requested.

By way of review, Nishiuchi et al. suggests, in FIGs. 1(a) and 1(b), a signal which alternates between a write power Pw power during a writing pulse in state 1, and auxiliary pulses S1, S2 alternating between erase power Pe and the write power Pw in state 0. (Col. 5, lines 19-50, col. 10, lines 30-59; FIGs. 1(a) through 1(d), 2, and 12). Even assuming arguendo the beginning pulse and ending pulse within the 0 state are at a Pe power, when the signal of FIG. 1(a) increases from state 0 to state 1, the pulse increases from the Pe power while at state 0 to the Pw power at state 1 at the next writing pulse. As such, the pulse relied upon by the Examiner is within the erase pattern and is not within the write pattern. There is no suggestion in FIG. 1(b) that another power level exists between the states 0 and 1 of the signal in FIG. 1(a), or that the power level of such a pulse should be or is at the Pe power as opposed to the Pw power.

In contrast, claim 20 recites, among other features, that "the erase pattern comprises a multi-pulse having a power level of a leading pulse of the erase pattern at a low power level of the multi-pulse and a power level of a period between an end point of the erase pattern and a start point of a leading pulse of the recording pattern at the low power level of the multi-pulse." As such, it is respectfully requested that the Examiner reconsider and withdraw the rejection in view of Nishiuchi et al.

**REJECTIONS UNDER 35 U.S.C. §103:**

On pages 8-9 of the Office Action, the Examiner rejects claims 4 and 5 under 35 U.S.C. §103(a) in view of Ushiyama et al. (U.S. Publication No. 2002/0176338) and Ichihara (U.S. Patent No. 6,396,792). The rejection is traversed and reconsideration is respectfully requested.

By way of review, claims 4 and 5 have been cancelled without prejudice or disclaimer. As such, it is respectfully submitted that the rejection is deemed moot.

On page 10 of the Office Action, the Examiner rejects claim 7 under 35 U.S.C. §103(a) in view of Dekker and Clark et al. (U.S. Patent No. 5,802,031). The rejection is traversed and reconsideration is respectfully requested.

Even assuming *arguendo* that the Examiner's characterization of Clark et al. is correct, the Examiner does not rely upon Clark et al. as curing the above-noted deficiency of Dekker and/or Ushiyama et al. as applied to claim 1, from which claim 7 depends. As such, it is respectfully submitted that the combination does not suggest the features of claim 7.

On pages 10-11 of the Office Action, the Examiner rejects claim 8 under 35 U.S.C. §103(a) in view of Ushiyama, Ichihara and Clark et al. The rejection is traversed and reconsideration is respectfully requested.

By way of review, claim 8 has been cancelled without prejudice or disclaimer. As such, it is respectfully submitted that the rejection is deemed moot.

**PATENTABILITY OF NEW CLAIMS:**

Claims 21 and 22 are deemed patentable due at least to their depending from corresponding claims 19 and 20.

**CONCLUSION:**

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

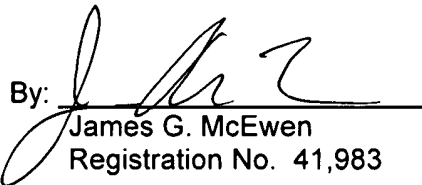
Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 503333.

Respectfully submitted,

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